AUTHENTICATION OF KEY RESOURCES PLAN - CHODERA LAB

BIOLOGICAL RESOURCES

Plasmid constructs. The sequence of engineered plasmid constructs of model proteins received or generated will be authenticated by antibiotic resistance marker and DNA sequencing of inserts in the cloning sites against canonical sequences in UniProt.

Bacterial cell lines for expression of recombinant proteins and for molecular biology will be authenticated by their antibiotics profile and their genotype.

CHEMICAL RESOURCES

Small molecules. Small molecules will be obtained from commercial sources. These compounds will be characterized by HPLC-MS and ^{1}H-NMR to verify their identity and purity as appropriate. NMR spectra will be provided as supplementary material for reference.

Recombinantly expressed proteins. Recombinant proteins will either be produced in-house or obtained from commercial sources. The molecular weight, concentration, and purity of purified His-tagged recombinantly expressed proteins will be verified using a Caliper GXII microfluidic gel electrophoresis instrument. ThermoFluor melts (thermal denaturation scans in the presence of Cypro Orange, a dye that changes fluorescence upon binding to unfolded proteins) performed using a Roche LC480 qPCR machine will be used to verify protein stability in our buffer systems.

Buffers. Buffers used for various biophysical assays are produced in a reproducible fashion by a LabMinds Revo automated buffer maker, which automatically prepares buffers in a reproducible manner, adjusting pH and filtering automatically. Complete details of all buffers (such as final pH, exact composition of buffer components by mass, manufacturer and lot numbers of all components) are stored online and will be made available as supplementary material.